

**IN THE CLAIMS:**

Please REPLACE claims 1 AND 8-11 in accordance with the following:

1. (ONCE AMENDED) A method for computer-supported error analysis of at least one of sensors and actuators in a technical system, the error analysis being in a form of a status-finite description that exhibits statuses of technical system, the method using a computer, comprising:
- a) determining a status-finite description of the technical system for an error case of an error of at least one of a sensor and an actuator in the technical system;
  - b) determining a first set of achievable statuses for the technical system;
  - c) determining a second set of achievable statuses for the technical system having an error;
  - d) forming a difference set from the first set and the second set; and
  - e) determining result conditions from the difference set, the result conditions meeting prescribable conditions.

8. (ONCE AMENDED) A method for rapid prototyping of a technical system, the system having atleast one of sensors and actuators in a technical system, the prototyping being in a form of a status-finite description that exhibits statuses of the technical system, the method using a computer, comprising:

- a) determining a status-finite description of the technical system for an error case of an error of at least one of a sensor and an actuator in the technical system;
- b) determining a first set of achievable statuses for the technical system;
- c) determining a second set of achievable statuses for the technical system having an error;
- d) forming a difference set from the first set and the second set; and
- e) determining result conditions from the difference set, the result conditions effecting prototyping of the technical system.

9. (ONCE AMENDED) The method error diagnosis of a technical system, the system having at least one of sensors and actuators in a technical system, the error diagnosis being in a form of a status-finite description that exhibits statuses of the technical system, the method using a computer, comprising:

- a) determining a status-finite description of the technical system for an error case of an error of at least one of a sensor and an actuator in the technical system;
- b) determining a first set of achievable statuses for the technical system;
- c) determining a second set of achievable statuses for the technical system having an error;
- d) forming a difference set from the first set and the second set; and
- e) determining result conditions from the difference set, the result conditions effecting error diagnosis of the technical system.

10. (ONCE AMENDED) A method for generating critical test cases for a commissioning and a system test of a technical system, the system having at least one of sensors and actuators in a technical system, the generating being in a form of a status-finite description that exhibits statuses of the technical system, the method using a computer, comprising:

- a) determining a status-finite description of the technical system for an error case of an error of at least one of a sensor and an actuator in the technical system;
- b) determining a first set of achievable statuses for the technical system;
- c) determining a second set of achievable statuses for the technical system having an error;
- d) forming a difference set from the first set and the second set; and
- e) determining result conditions from the difference set, the result conditions effecting the generation of critical test cases.

11. (ONCE AMENDED) A method for preventive maintenance of a technical system, the system having at least one of sensors and actuators in a technical system, the method being in a form of a status-finite description that exhibits statuses of the technical system, the method using a computer, comprising:

- a) determining a status-finite description of the technical system for an error case of an error of at least one of a sensor and an actuator in the technical system;
- b) determining a first set of achievable statuses for the technical system;
- c) determining a second set of achievable statuses for the technical system having an error;
- d) forming a difference set from the first set and the second set; and